Title (en)

Permanent magnet synchronous machine with reduced cogging torque

Title (de)

Permanentmagneterregte Synchronmaschine mit reduzierter Drehmomentenwelligkeit

Title (fr)

Machine synchrone à aimants permanents dotée d'une ondulation de couple réduite

Publication

EP 2139100 B1 20121031 (DE)

Application

EP 08011716 A 20080627

Priority

EP 08011716 A 20080627

Abstract (en)

[origin: EP2139100A1] The machine has a stator with several teeth surrounded by windings. A six-pole rotor (13) has permanent magnets (14) which are arranged in circumferential direction to have 20-42.9% of pole gap and 40-57.2% of skew with respect to pole pitch. The ratio between schdpt and pldpt conforms to predefined relation, where schdpt is ratio between skew angle and pole pitch and pldpt is ratio between pole gap and pole pitch. The pole gap and skew are designed so that oscillating torques caused by fifth and seventh harmonics of stator and rotor fields are mutually reduced.

IPC 8 full level (invention and additional information)

H02K 29/03 (2006.01); **H02K 1/27** (2006.01); H02K 21/16 (2006.01)

CPC (invention and additional information)

H02K 29/03 (2013.01); **H02K 1/278** (2013.01); H02K 21/16 (2013.01); H02K 2201/06 (2013.01)

Cited by

EP2966756A1; EP3203609A1; DE102014115016A1; WO2017133800A1

Designated contracting state (EPC)

DE FR

DOCDB simple family

EP 2139100 A1 20091230; EP 2139100 B1 20121031; CN 101615833 A 20091230; CN 101615833 B 20110629; US 2009322174 A1 20091231; US 8227951 B2 20120724